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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,039	09/27/2005	Masahiro Fujita	09812.0514	4647

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER	
SRIRAMAN, NIKHIL	

ART UNIT	PAPER NUMBER
3664	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/551,039	FUJITA ET AL.	
	Examiner	Art Unit	
	NIKHIL SRIRAMAN	3664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/27/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is a non-final Office Action on the merits in response to communications filed by Applicant on September 27, 2005. The preliminary amendment cancelling claims 1-24 and adding claims 25-48 has been received and entered. Thus, claims 25-48 are currently pending and have addressed below.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claim 28 and 36 are objected to because of the following informalities: Line 7 appears to mistakenly have been formatted as the beginning of a new limitation, as it is indented midway through a claim element. The same objection applies to claims 28.

Claim 44 is objected to because it appears to mistakenly be dependent on claim 41, rather than claim 43. This is inferred from the fact that every other dependency in the system claims 41-48 run in parallel with the dependency of the method claims 33-40 and apparatus claims 25-32.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 25-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 33, lines 7-10 recite “a receiving step for receiving, from said robot apparatus, an inquiry containing the information pertinent to a service request and the information pertinent to said robot". It is unclear why the inquiry contains information pertinent to the service request, rather than requesting such information. Perhaps this limitation is intended to state that “an inquiry contains pertinent information necessary for a response to a service request”. As currently drafted, however, this limitation is indefinite. Further regarding claim 33, line 15 recites “matched to the requested service." Because the word "match" is in the past tense, it implies this step has previously occurred despite the absence of an earlier limitation positively reciting “matching”.

Regarding claims 25 and 41, the same rational applies as set forth for claim 33.

Regarding claim 35, lines 4-5 recite “a step of supervising the supplementary information pertinent to each data or program as a database”. The term "the supplementary information" has not been previously introduced. The new terminology suggests that this is a new and distinct limitation. However, the antecedent basis and the fact that both “the supplementary information” of claim 35 and the “information” in claim 33 are “pertinent” suggest the limitations are not distinct.

Further regarding claim 35, lines 6-7 recite “the matching of said inquiry and the supplemental information", where it is unclear if this is the matching that takes place in claim 33 upon which claim 35 depends, or a separate matching. The antecedent basis indicates it is the same limitation, but the fact that different elements are being matched suggests it is a new and distinct step.

Regarding claim 27 and 43, the same rational applies as set forth for claim 35.

Regarding claim 36, lines 4-5 recite "a step of returning, responsive to the results of selection", where the term “results” lacks proper antecedent basis. This makes it unclear if this is a new limitation or if this is intended to be the list that is returned in claim 35 upon which claim 36 depends. Further, it is unclear where to and from the method for selected program access is being returned.

Additionally, it is unclear if “selection from said robot apparatus” is intended to be a step that limits the scope of the claim because it possesses no antecedent basis. This claim goes on to state in lines 11-13 "said transmitting step transmitting data or the program as requested, response to the access request complying with said access method from said robot apparatus", where "the access request" is neither previously defined nor introduced. Moreover, it is unclear if this step of transmitting data or the program is a narrower version of the transmitting step found in claim 33, or if instead it is a distinct step that would mean there are two separate transmissions of data or program from the apparatus to the robot.

Regarding claims 28 and 44, the same rational applies as set forth for claim 36.

Regarding claim 39, line 26 recites "specifying the functions in deficit in said robot". It is unclear what is meant by the term "deficit" which could mean the functions are in an improper language format, the functions are incompatible, there is insufficient memory store such functions, etc.

Regarding claims 31 and 47, the same rational applies as set forth for claim 39.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 25, 27-33, 35-41 and 43-48-rejected under 35 U.S.C. 102(b) as being anticipated by Popp et al. (6,266,577 B1).

Regarding claims 25 and 27-32, the use of the apparatus for the method claims as disclosed below for claims 33 and 35-40 respectively read on these apparatus claims.

Regarding claim 33, Popp et al. discloses an information providing method for supplying motion data, stating the movements of a body unit of a robot apparatus, or an application program, managing recognition and/or action control, to a robot apparatus, over a network (Fig. 3); said method comprising:

a receiving step of receiving, from said robot apparatus, an inquiry containing the information pertinent to a service request and the information pertinent to said robot

apparatus (Fig. 3, item 310; Col. 4, lines 32 – Col. 5, line 60, where Examiner construes the performance data an inquiry from the robot as to its fitness. Further, because the method's ultimate objective is for each robot to acquire the fittest controller logic, the service request is construed to constitute a request for the fittest controller logic);

an analysis step of analyzing said inquiry (Fig. 3, item 320 via determination of most fit constitutes analysis; Col. 4, lines 32 – Col. 5, line 60); and

a transmitting step of transmitting the data or program, matched to the requested service, to said robot apparatus (Fig. 3, item 340 via the control logic of the most fit logic is matched to the "less fit" robot and transmitted to the less fit robot; Col. 4, lines 32 – Col. 5, line 60).

Regarding claim 35, further comprising a step of supervising the supplementary information pertinent to each data or program as a database (Col. 4, lines 32-67 via when NCC evaluates and ranks robots it is supervising and where "threshold value" constitutes supplemental information); and

a step of taking the matching of said inquiry and the supplementary information of said database (Col. 4, lines 32-67 via matching occurs between performance data and threshold), formulating a list of the data or programs that can be provided, and returning the list to the robot apparatus (Col. 4, lines 32-67 via NCC ranking constitutes a list, which is returned when the robot either receives its own controller logic or that of another robot).

Regarding claim 36, a step of returning, responsive to the results of selection from said robot apparatus for said list of the data or programs that can be provided, a

method for accessing the data or programs selected (Col. 5, lines 3-20 where GP rule constitutes a memory for accessing the data or programs);

said transmitting step transmitting data or the program as requested, responsive to the access request complying with said access method from said robot apparatus (Col. 4, lines 32 – Col. 5, line 60 where signal processing control logic of DSP 240, the motion control logic of behavior execution unit 252 are transmitted; where the initial transmission of performance data is for the purpose of accessing "fitter data" and therefore, constitutes an access request).

Regarding claim 37, wherein said supplementary information pertinent to said data or programs includes the information pertinent to services and the information pertinent to the robot apparatus (Col. 4, lines 32 – Col. 5, line 60 via threshold value pertains to the fitness of the motion control logic).

Regarding claim 38, wherein said information pertinent to the robot apparatus includes at least a part of the following information: (1) an ID proper to a robot apparatus, uniquely allocated to each robot apparatus; (2) a robot sort ID uniquely allocated to each of the sorts of the robot apparatus; (3) a list of functions of the robot apparatus; (4) the information indicating the hardware architecture of the robot apparatus; and (5) a database list owned by the robot apparatus (Col. 3, line 60 – Col. 4, line 5 via motion control logic defines a particular motion of robot, and therefore a list of functions).

Regarding claim 39, an information providing method for providing data or a program to a robot apparatus, over a network, said method comprising:

a receiving step of receiving, from said robot apparatus, an inquiry containing the information pertinent to a service request and the information pertinent to said robot apparatus (Fig. 3, item 310; Col. 4, lines 32 – Col. 5, line 60, where Examiner construes the performance data an inquiry from the robot as to its fitness. Further, because the method's ultimate objective is for each robot to acquire the fittest controller logic, the service request is construed to constitute a request for the fittest controller logic);

an analysis step of analyzing said inquiry (Fig. 3, item 320 via determination of most fit constitutes analysis; Col. 4, lines 32 – Col. 5, line 60); and

a transmitting step of transmitting the data or program, matched to the requested service, to said robot apparatus (Fig. 3, item 340 via the control logic of the most fit logic is matched to the "less fit" robot and transmitted to the less fit robot; Col. 4, lines 32 – Col. 5, line 60);

said information pertinent to the robot apparatus including at least a list of functions of the robot apparatus (Col. 4, lines 32 – Col. 5, line 60, where performance data is a list of functions of the robot);

said information providing method further comprising:

a step of specifying the functions needed for said robot apparatus to render services (Col. 4, lines 32 – Col. 5, line 60 via fitness constitutes the functional level needed to render a certain quality of service); and

a step of comparing the needed functions specified by said function specifying means to said list of functions of the robot apparatus for specifying the functions in

deficit in said robot apparatus, among said needed functions (Col. 4, lines 32 – Col. 5, line 60 via ranking of robots by their fitness);

said transmitting step transmitting the data or programs for substituting the functions usable by said robot apparatus for the functions in deficit (Col. 4, lines 32 – Col. 5, line 60 via “NCC then transmits to "less fit" robots 120 the control logic received from the "most fit robots").

Regarding claims 41 and 43-48, the use of the system for the method claims as disclosed above for claims 33 and 35-40 respectively reads these system claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 34, 26 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Popp et al. (6,266,577 B1) in view of Senn (2004/0002790 A1).

Regarding claims 34, 26 and 42, Popp et al. discloses remote communication between with robot apparatus (Col. 4, lines 6-32).

Popp et al. fails to disclose wherein communication with the robot apparatus is by SOAP (Simple Object Access Control).

However, Senn discloses software in the field of robotics communications ([0042]) wherein information is distributed through SOAP ([0043]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to combine robotic wireless communication system as disclosed by Popp et al. with the use of information transmission through SOAP as disclosed by Senn in order to provide a more flexible communication means (Senn, [0043]).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sano (2004/0236467 A1) discloses a remote control device of bipedal mobile robot.

Solomon (2004/0030451 A1) discloses a method and apparatus for decision making of system of mobile robotic vehicles.

Murray, IV et al. (2003/0171846 A1) discloses a sensor actuator abstraction and aggregation in a hardware abstraction layer for a robot.

Fujita et al. (2003/0060930 A1) discloses a robot device and behavior control method for robot device.

McLurkin et al. (7,117,067 B2) discloses a system and method for adaptive control of robotic devices.

Hara et al. (7,082,351 B2) discloses a group robot system and sensing robot and base station used therefor.

Sabe et al. (6,889,117 B2) discloses a robot apparatus and method for controlling the action of the robot apparatus.

Yokoo et al. (6,560,511 B1) discloses a electronic pet system, network system, robot and storage medium.

Non-Patent Literature -- Rybski, Performance of a Distributed Robotic System Using Shared Communications Channels, October 2002, IEEE, Volume 18, pages 713-727.

Non-Patent Literature -- Ye, Evaluating Control Strategies for Wireless-Network Robots Using an Integrated Robot and Network Simulation, May 2001, IEEE, International Conference on Robotics & Automation, p2941-2947.

Non-Patent Literature -- Piaggio, A Programmable Environment for Real-Time Control of Distributed Multiple Robotic Systems, Advanced Robotics, Vol. 14, 2000, p75-86.

Non-Patent Literature -- Mutambara, Estimation and Control for a Modular Wheeled Mobile Robot, IEEE Transactions on Control Systems Technology, Vol. 8, No. 1, January 2000.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIKHIL SRIRAMAN whose telephone number is (571)270-5797. The examiner can normally be reached on Monday through Friday, 7:30am-5:00pm, with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on 571-272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NIKHIL SRIRAMAN
Examiner
Art Unit 3664

N.S.
/KHOI TRAN/
Supervisory Patent Examiner, Art Unit 3664